

URBAN COUNCIL

JOINT REPORT

OF THE

Medical Officer of Health

AND

Sanitary Inspector

ON THE

SANITARY CONDITION OF LEEK,

For the Year ending 1900.

LEEK:

CHARLES KIRKHAM, PRINTER, DERBY STREET.





REPORT OF THE

MEDICAL OFFICER OF HEALTH FOR THE LEEK URBAN SANITARY DISTRICT,

1900.

The Leck Urban Sanitary District covers an area of 1,460 acres, and in the highest portion of what is a hilly district, attains an elevation of about 600 feet above sea level.

A line drawn across the middle of the District, due North and South, marks fairly accurately its geological division: on the East of this line is a sub-soil of clay, on the West one consisting of sand.

Investigations have been made with the view of ascertaining what influence this difference of sub-soil has on the health of the inhabitants, both in respect to the general mortality, and more particularly as to its influence on the mortality from Phthisis, with the somewhat unexpected result that no appreciable difference could be demonstrated.

Further comparative investigations relating to other diseases would be interesting and instructive.

HOUSE ACCOMMODATION.

The house accommodation, especially of the working classes, is good, both as regards its adequacy and fitness for habitation. A sufficiency of open space about the houses is much more apparent in the more recently erected buildings; and their surroundings are clean.

Supervision is constantly exercised over the erection of new houses.

There is an increasing demand for middle-class houses in the District.

SEWERAGE AND DRAINAGE.

The town sewerage and drainage are well maintained, and sufficient in all parts of the Disitrict, with the exception of a few out-lying portions, which require attention.

The separation of the storm-water from the sewage is almost complete on the South side of the town.

SEWAGE DISPOSAL.

The method of sewage disposal has proved with us, as in so many other places, a source of great trouble, and has necessitated the expenditure of a large sum of money without attaining satisfactory results.

On the South side, a scheme of Mr. Bailey Denton's, consisting of Downward Filtration and Broad Irrigation was adopted in 1899. So far, the results according to the analyses of the effluent by the County Medical Officer, are, to say the least, not encouraging; the lower irrigated portion being frequently in the condition of a swamp; to remedy which additional under drainage is now contemplated.

On the North side the old land treatment (Broad Irrigation) is still in vogue: the Council employs a man constantly to attend to the carriers, &c., with the result that there is no swamp, and no offensive odour.

Until we have some guidance from the South side experiments, it is difficult to advise any particular scheme for the North, which would involve a further large outlay of money.

We await the results from the various "Biological" and other experimental methods now being carried on in various parts of the country to throw more light on this very unsettled, costly, and much disputed subject.

EXCREMENT DISPOSAL.

The system in vogue for the disposal of excrement is mainly the water-carriage system, the remaining privies being gradually replaced by water closets.

REMOVAL AND DISPOSAL OF HOUSE REFUSE.

The removal of house refuse is accomplished by the public scavengers employed by the Council, who make weekly rounds to collect the contents of about 2,000 movable receptacles; otherwise where ashpits exist these are emptied on notice being sent to the Authority.

The disposal of refuse consists simply in its being emptied on the "tip," and as in addition to ashes this refuse contains a mixture of decomposing animal and vegetable matter, the "tips" necessarily become a source of danger to the community. This is a matter which calls for the attention of the Council in the near future; the "tip" system should be entirely abolished, and in its place a "Destructor" erected, in which these objectionable matters can be cremated.

WATER SUPPLY.

The water supply is one of which we are justly proud; taking its origin in a series of springs in the millstone-grit of the Roches, it is carried directly, practically without storage, to the town. The only approach to storage consists in the use of a reservoir situated on the outskirts of the town, which receives the surplus of water during the night, this is again reduced by the increased demand during the day diminishing the pressure in the mains, and allowing a flow from the reservoir through an automatic valve. The supply is sufficient, wholesome, and free from risk of pollution.

Lodging-houses, slaughter-houses, bake-houses, dairies, cowsheds, &c., are dealt with in detail in the Inspector's report.

INFECTIOUS DISEASES AND ISOLATION HOSPITAL.

Infectious diseases are as far as possible dealt with at the Isolation Hospital; true isolation in the homes being well nigh an impossibility; in this connection I heartily endorse the remarks of the Inspector.

In connection with the Isolation Hospital at the present time, contracts have been accepted for the laying down of a thorough system of heating by hot water, superseding the gas stoves in the wards, and gas heaters for the baths, also for the introduction of a number of Boyle's Radiators for the admission of fresh warmed air into the wards. When these alterations are accomplished the heating and ventilation will be vastly improved.

The Hospital accommodation cannot be described as adequate to all emergencies in times of serious epidemics. During periods when two or three epidemics of different diseases are prevalent at the same time, more available space is desirable. To meet the requirements of the growing population, an extension of the present buildings will be necessary, and should be contemplated at an early date.

The original plan of the Hospital provided accommodation for 3 beds in each ward, or a total of 12 beds in 4 wards, and when it is considered that at the height of the epidemic of scarlet fever during last summer there was a total number of cases amounting to 26 in the Hospital at the same time, it will be seen that the accommodation was stretched almost beyond its possible limits; granted that the cases were mostly mild, and were soon up and about in the grounds during the day, still there is the over-crowded condition at night; moreover, had enteric fever or diphtheria broken out in the town during that time, they could not have been admitted, for every ward was full of scarlatina.

In any contemplated extension, a ward set apart for doubtful cases would be beneficial, and would render our equipment for the fight against infectious disease more complete.

DISINFECTION.

Disinfection is invariably effected by means of the dense fumes of vapourised carbolic acid, produced by a portable apparatus designed by Mr. Farrow more than twenty years ago, and now made by Messrs. Calvert, of Manchester; this method has been constantly used in this District since that time to the exclusion of all other methods; it is rapid, clean, efficient, and is not injurious to furniture or metal work, and in no way affects the

colours of pictures, wall papers, or delicate fabrics; all great advantages over the sulphur method.

Half-a-pound of phenol can be converted into vapour in three minutes, and is amply sufficient for the disinfection of a room of the capacity of 1,000 cubic feet.

I have personally proved the efficacy of this vapour by extended bacteriological experiments, and beg to call the attention of the various Authorities of the County to this simple means of disinfection.

MORTALITY RETURNS, &c.

The year 1900 has proved a fairly good one as regards the health of the town; the deaths numbering 280, which is 4.7 below the average of the preceding 10 years.

Of this number 162 were males, with a mean age at death of 36.9 years; and 118 females whose mean age at death was 42.4 years.

The death-rate according to the present estimated population comes out at 18.2 per 1,000 of the living, deducting 20 deaths of persons (non-resident) who died in public institutions, the corrected mortality is 16.9 per 1,000 of the living.

The estimated population for the middle of the year is 15,386, but as this is arrived at by adding the excess of births over deaths to the returns of the last census, without in any way considering the immigration and emigration into and out of the town (the former of which very likely largely exceeds the latter), our estimate in all probability falls short of the actual number, which may be expected to reach about 16,000 when the new census is taken; should this be the case the death-rate, 16.9 per

1.000, would be further reduced, yielding a still more satisfactory figure.

As we are on the eve of a new census a few brief particulars of the census taken in 1891 may be of interest. They are as follows:—

Total population at all ages ... 14,128 Number of inhabited houses ... 3,022 Average number of persons per house 4.67

Inasmuch as the number of dwelling-houses has risen from 3,022 in 1891 to 3,620 in 1900, it is still further evident that the population is under estimated at the present time.

AGES AT DEATH.

Under 1 year		 59
Between I and	5 years	 26
,, 5 ,, I	5 ,,	 5
,, 15 ,, 2		 12
,, 25 ,, 6		100
Over 65 years		 78

There was only I uncertified death in the District during the year.

BIRTHS.

The births registered during the year were 414, 38 more than last year's return, but 4'4 less than the average for the preceding 10 years. These comprised 212 males and 202 females, giving a birth-rate of 26'9 per 1,000 of the living.

INFANT MORTALITY.

For information regarding infant mortality refer to Table 3 of the Inspector's report, with whose remarks I thoroughly agree, and in connection with this subject I may add that 24 still-born children have been registered during the year.

CAUSES OF DEATH.

The Zymotic class of diseases has caused 19 deaths, the average for the previous 10 years being 20'4; of these, 6 were due to epidemic influenza, 4 to enteric fever, 3 to scarlet fever, and 3 to diphtheria. There has been no death attributed to measles or whooping cough.

In all cases of infectious disease the premises have been promptly inspected, and the milk supply made the subject of examination and enquiry.

There have been 12 cases of diphtheria reported, a larger number than has been the case for many years. This is not surprising when we consider the large number of cases existing in the Potteries, and in the country districts surrounding the town. Fortunately the majority of these cases were mild; in all isolation and disinfection were promptly carried out. During this epidemic we were considerably helped in confirmation of diagnosis by the County Council arrangements for the examination of throat swabs at the Mason's College, Birmingham; for these facilities, and the promptitude with which the reports on cases sent were made, we express our gratitude and best thanks to the County Council.

Fifteen cases of enteric fever were notified and 4 deaths resulted. In each case a most careful investigation was made to discover the source of infection.

In only one instance was any sanitary defect discovered on the premises, and the milk supply was free from suspicion.

There were 135 cases of scarlet fever notified, of this number 84 were removed to the Isolation Hospital, and 51 were treated at their homes. Of the cases treated at the Hospital 1.1 per cent. proved fatal, and of the cases treated at their own homes 3.9 per cent. terminated fatally: these figures prove clearly the value of hospital treatment: to say nothing of the value of isolation in checking the spread of scarlet fever.

Phthisis has been responsible for 19 deaths, the average for the preceding 10 years being 22.9. The infectious character of this disease should be more fully recognised, and until its notification is adopted, an intimation from the medical attendant to the Sanitary Authority at the termination of a case, would ensure disinfection of rooms, &c., helping to minimise the danger to others.

In the class of Local diseases the mortality from diseases of the brain and nervous system was 40, the average for 10 years being 37.2; that from heart affections 21, the 10 years' average being 32.7; that from diseases of the digestive organs 21, the average for 10 years being 22.9; and that from diseases of the respiratory organs 51, the 10 years' average being 51.6.

As these diseases are chiefly the result of mistaken and injurious habits of life, we do not find that improved sanitation has much influence over them, although in other classes this agency has been most effectual, as demonstrated by the fact that within the last 40 years the rate of mortality has been reduced 30 per cent., and the duration of life increased 30 per cent., as compared with the 10 years ending 1860.

Nothing else in this year's mortality returns needs special comment, and I append table of causes of death and ages at death as usual:—

CAUSES OF DEATH IN 1900.

Influenza Enteric Fever Septicæmia Scarlet Fever Diphtheria	Jan.	I	April	June		Oct.	I Now.	Dec.	0 4 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3
Phthisis Tubercular Diseases Cancer Alcoholism Congenital Syphilis	I 2	2 I I	4 I I 2 I 2 I I	I I	2.	2 I	3 I	I	19 11 10 2 1
Diseases of Brain, etc Respiration Circulation Digestion Urination Locomotion Generation	3 4 	2 3 	4 5 6 8 4 · · · · · · · · · · · · · · · · · ·	3 2 1 2 1	I	4 · · · 3 · 6 · · · · · · · · · · · · · ·	I	3 5 4	40 51 21 21 11 1
Old Age Premature Birth Debility, &c. Teething Child-birth	2		6 5 2 I 3 2 I	I I	I :	3 · · · · · · · · · · · · · · · · · · ·	4 1	3 4 1	34 13 13 1
Sudden or Violent	3		ı	ıl ı		2 1	• •	I	10
Total	19 30	25	37 29	19 10	17 28	3 17	25	2.4	280

AGES AT DEATH.

1900.	I-0	1—2	2—3	34	4—5 Total	under 5	510	10-15	15-25	25-35	35-45	45-55	5565	65—75	75-85	8595	Total
January February March April June July August September October November December	1 4 8 6	3 · · · · · · 3	I		I	2 5 10 9 9 4 2 8 11 7 7	2	2	I 2 2 1 2 2 I I	3 I 2	3	 2 3 2 2 3 6 2 1	2 3 3	4 7 2 7 5 4 2 I 4 3 4 2	3 7 2 2	I I 	19 30 25 37 29 10 10 17 28 17 25 24
Tota			_			85	3	2	 I 2	18	17	<u>-</u> 28	-	-	 29	4	2S0

VACCINATION.

Through the courtesy of the Vaccination Officer, I am able to give figures relating to the last 4 years' experience in this District. From these it will appear that the new Act 1898, is working more satisfactorily than the old one did.

The figures for 1900 are incomplete as many children born during the latter months of the year, have not yet attained the vaccination age of 4 months.

The number of exemptions shows a remarkable falling off during the latter portion of this period.

	Births	Vacci- nated	Exemp- tions	tnsus- ceptible	Re- moved	Dead	Post- poned
1897	434	266	98	I	17	52	0
1898	433	243	139	0	9	43	0
1899	377	262	49	0	10	50	6
1900 ½-year ending June 30	219	159	25	I	5	19	10
½-year ending Dec. 31	196	59	16	0	I	20	0
	Under	the va	ccinati	on age	about	100.	

During the year monthly reports have been made to the Sanitary Committee in which any question specially affecting the health of the town has been referred to, and when necessary, suggestions submitted for abatement or improvement.

J. MOUNTFORT JOHNSON, M.D., Deputy Medical Officer of Health.

SANITARY INSPECTOR'S REPORT.

ACTION TAKEN FOR THE ABATEMENT OF NUISANCES. &C.

During the year ending December, 1900, the following cases of Nuisance and other matters complained of were dealt with, comprising:—

				C.	ASES
Defective or want of private of	draina	ige			45
Slop-stone drains admitting	serre	r gas in	house		
		[discon			3
Defective water closets		* * *			12
Offensive privies					19
Accumulation of offensive ma	tter				23
Offensive cesspools filled up					3
Want of drain ventilation					
Dilapidated buildings					3 8
Houses in a filthy condition					7
Nuisances arising from over-	crowd	ling			ĭ
Defective water spouting					4
Want of proper water supply					I
Swine kept within 60 feet of		ing hou	ise		0
Want of proper bed-room ve	ntilat	ion			3
01 1 1					I
Water course polluted by sev	vage				0
Poultry kept in dwelling-hou	se co	ntrary t	o Bye-	laws	0
Nuisance from fish frying					I
Want of proper paving in pr	ivate	yards	attache	ed to	
			lling-ho		I
Want of privy or water close	t ace	ommod	ation		2
Want of proper receptacles f	or asl	hes			49
Nuisance arising from dense					4
74 houses, I school, 547 artic				ding,	
&c., were disinfec					
			-		

A considerable number of nuisances were promptly abated on the same being intimated to the persons responsible.

There are 19 unexpired notices of nuisances remaining on the books not yet complied with.

Unsound Food.

I parcel of 12 eggs, unfit for human food, were seized and destroyed.

OFFENSIVE PRIVIES AND CESSPOOLS.

	CASES
	II
Offensive ashpits abolished, and portable receptacles	
provided in lieu thereof	7

REMOVAL OF ASHES AND NIGHT-SOIL.

The Scavenging Department removed 5010 loads of house ashes and garbage, and 296 loads of night-soil. I beg to call attention to the fact that the present tip for ashes and garbage is now nearly filled up, and provision must be made for the disposal of house refuse in the future. As all tips of this kind are highly objectionable, the question arises as to whether arrangements should not be made to provide a destructor.

Common Lodging-Houses.

There are 4 houses licensed under the Common Lodging-houses Acts, for the reception of 128 casual lodgers. The regulations approved by the Local Government Board for their management are being satisfactorily observed. No case of infectious disease occurred in these houses during the year.

SLAUGHTER-HOUSES.

There are 6 Slaughter-houses within the Town, licensed subject to the Bye-laws authorised by the Local Government Board.

Workshops.

The Workshops within the limits of the Leek Improvement Act were inspected from time to time, and any suggestion made with a view to keeping the same in a satisfactory condition was readily complied with by the occupier.

Bakehouses.

There are now 24 Bakehouses within the Town, in which 46 males over 16 years of age, 2 females over 16 years of age, and 5 males under 16 years of age are employed. They were all (with one exception) found to be in a satisfactory condition. There is now only one underground Bakehouse within the Town.

PETROLEUM STORES.

There are 2 licenses in force within the Town for the keeping or sale of Petroleum or other substances of a like nature.

GAS SUPPLY.

The purity of the Gas supplied to the Town was tested from time to time in the manner required by the 34th and 35th Vic., cap. 41. No impurity arising from the presence of sulphuretted hydrogen was shewn by the tests made at the Town Hall during the year.

NOTIFICATION OF INFECTIOUS DISEASE.

During the year ending 1900, 175 cases of infectious diseases, consisting of 135 cases of scarlet fever: 12 of diphtheria; 15 of enteric fever; 11 of erysipelas; 1 membranous croup; and I from puerperal fever were notified during the year, and the necessary steps promptly taken to prevent the spread of the disease. 98 of these cases were removed to the hospital, and the remainder treated at their homes. Notwithstanding the efforts of the department, it has been found exceedingly difficult in many cases to secure satisfactory isolation of cases of infectious disease at home. Thoughtless persons attending upon the patient mixing with others without taking proper precautions, and receiving visitors into the infected house, have been the means of spreading the infection to a large extent. In other instances, especially scarlet fever, cases have been of so mild a character that it was not thought necessary to call in the doctor, and the case has gone unrecognised, the children being allowed to mix with others, and spread the infection. The source of milk supply is recorded in every case of infectious disease notified, and we have no evidence of any mischief resulting from its distribution.

ISOLATION HOSPITAL.

Year ending December, 1900.

Number		in Hospital, Jan. 1st, 1		8
Do.	do.	admitted during the year	ır*10	07
Do.	do.	discharged do.		99
Do.	do.	died do.		4
Do.	do.	in Hospital, Dec. 31st,	1900	12

* Of this number 6 were from the Leek Rural District, and 3 from the Cheadle Rural District.

The average duration in Hospital of each patient discharged or died was 46'1 days.

INTERMENTS WITHIN THE TOWN.

During the year ending December, 1900, 2 interments took place in the Burial Ground attached to St. Edward's Church, and 4 in the ground attached to Mount Pleasant Wesleyan Chapel. The provisions of the Orders in Council relating thereto were duly observed.

Table 1.— Abstract of the Census Returns of 1851, 1861, 1871, 1881 and 1891, within the Limits of the Leek Improvement Act.

Census	Area in	Н	OUSE:	S.	Р	ERSO	NS.
Year	Statute Acres	In- habited	Unin- habited	Build- ing	Males	Fe- males	TOTAL
1851 1861 1871 1881 1891	1460 1460 1460 1460 1460	1791 2228 2386 2726 3022	39 101 88 136 109	22 27 2 18 24	4315 4686 5087 5874 6420	4781 5488 6244 6991 7708	9056 10174 11331 12865 14128

TABLE 2.—POPULATION, BIRTHS AND DEATHS

and Deaths to 1000 persons living, and the mean Age at Death of males, females and persons within the limits of the Leek Improvement Act, during various periods of the 50 years ending 1900.—(W. H. H.) Table showing the mean Population, the number of Births and Deaths, and the average annual number of Births

Periods.	Mean Population	Total nu	Total number of Births Deaths	Average Num Births and 1000 l	Average Annual Number of Births and Deaths to 1000 living. Births Deaths	Mean Age at Death. Males Females Pers	p
		Births	Deaths	Births	Deaths	Males	Females
						Years.	Y'eurs.
10 years 1851-60	9635	3.140	2819	35.7	29.3	23.5	25.9
10 years 1861-70	10752	3516	25.10	32.7	23.6	29.1	34 7
10 years 1871-80	12098	4167	273.1	34.4	22.6	30.8	32 3
10 years 1881-90	13496	4146	2668	30.1	19.8	327	35.9
1891	14154	406	257	28.7	18.2	369	386
1892	14289	417	322	29.1	22.5	33.9	. 38.7
1893	14406	425	292	29.5	20.2	36.9	39 8
1894	14573	429	250	29'4	17.1	33.0	36.8
1895	14746	447	295	30.3	20.0	33 9	36.5
1896	14920	408	257	27.3	17.2	36.7	360
1897	15037	418	289	27.7	192	38.0	406
1898	15174	437	267	28.8	17 6	34.4	37 4
1899	15242	376	323	24.6	21.1	39.7	36 5
1000	15386	†I†	*280	26.9	18.2	36.9	42.4

This number includes 20 persons brought to Public Institutions from other Districts, viz., I from Leekfrith, from Longnor, 2 from Norton, 2 from Smallthorne, 2 from Rushton, I from Wetley Rocks, I from Burslem, I from Basingstoke, I from Sheffield, I from Birmingham, I from London and I (a Tramp) from Yorkshire.

Excluding the 20 Deaths in Public Institutions in the Town of persons brought there from other Districts, the corrected annual rate of mortality in the Urban District of Leek for the year ending December, 1900, is 16.9 to 1,000 living. Our estimated population in the middle of the year 1900, is based upon the data of the last decade, which will probably prove to be understated, when census returns of 1901 are published.

It will be seen by the foregoing No. 2 Abstract Table that during the last 40 years, the rate of mortality compared with that of the 10 years 1851-60 has been reduced 30 per cent., and the duration of life increased 30 per cent., which is equivalent to a reduction of 30 per cent. in the rate of sickness. Gradually the fact is being more fully recognised that in proportion as health is protected, and the duration of life enhanced, the wealth of the community is increased.

Table 3.—Infant Mortality.

Table showing the number of Births; the number of Deaths under one year; and the rate of mortality to 1,000 births, within the limits of the Leek Improvement Act, during various periods of the 50 years ending 1900.

	Num	ber of	
Periods.	Births.	Deaths under I year,	Rate of Mortality to 1000.
10 years 1851-60	3440	646	187.8
10 years 1861-70	3517	573	162.9
10 years 18 71- So	4167	670	160.7
10 years 1881-90	4146	585	141 1
Year 1891	406	51	1256
,, 1892	417	65	155.8
,, 1893	425	59	138.S
,, 1894	429	71	100.3
,, 1895	447	Sı	181.3
,, 1896	408	47	115.5
,, 1897	418	54	129.2
,, 1898	437	59	135.0
1 1899	376	74	196.8
,, 1900	414	59	142.5

There is no doubt but that the objectionable system of the employment of mothers of infants from their homes is, to a large extent, responsible for the loss of infant life Experience shows that infant mortality tends to rise when the staple trade is good, and falls when it is bad.

TABLE 4.

Percentage of Illegitimate Births in Leek during each of the undermentioned periods, of the 50 years ending 1900.

Periods of Years.	Percentage of Illegitimate Births.
10 years 1851-60	9 ⁻ 7
10 years 1861-70	8.8
to years 1871-80	8.2
10 years 1881-90	6.8
Year 1891	5.2
,, 1892	4.8
,, 1893	6.8
,, 1894	6.3
,, 1895	5.6
,, 1896	4.6
,, 1897	5.0
,, 1898	5.9
1899	6.3
,, 1900	6.3

Housing of the Working Classes' Act.

During the year 1900, it has not been necessary to resort to the provisions of this Act.

CANAL BOATS ACTS, 1877 AND 1884.

During the year ending December 1900, 62 Canal Boats were inspected within the Urban Sanitary District of Leek. With 2 exceptions, the condition of the Boats and their occupants, as regards the several matters dealt with in the Acts and Regulations, were satisfactory. No proceedings were taken beyond cautioning the persons concerned.

Dairies, Cow-Sheds & Milk-Shops Orders, 1885.

There are 47 persons registered pursuant to the above mentioned Orders within the Urban Sanitary District of Leek. All registered premises were inspected half-yearly. The Regulations of the Local Authority made in that behalf, which came into force on the first day of August, 1891, are being enforced. There are 225 milch cows kept within the district.

SANITARY CONDITION OF SCHOOLS.

During the year additional sums have been expended by managers of several of the Elementary Schools in increasing the accommodation, and materially improving their Sanitary condition. The total number of scholars on the register at the end of December, 1900, was 2,958, and the average per centage of attendance during that month was 84.3.

R. FARROW,

Sanitary Inspector.

